

**REMARKS/ARGUMENTS**

***Claim Rejections - 35 U.S.C. 112***

The Examiner argues that in claim 9, it is unclear what prefix is being referred to in the limitation “on either side of each prefix”. The claim has been amended to refer to the guard time being on either side of each “non-OFDM segment” for consistency with claim 1.

Claim 85 has been amended to replace the limitation “the fourth data segment” with “the third data segment” to deal with the other rejection raised by the Examiner under 35 U.S.C. 112

***Claim Rejections – 35 U.S.C. 102***

Claims 1, 2, 9, 15, 54, 55, 71, 79, and 80 (as best understood) are rejected under 35 U.S.C. 102(a) as being anticipated by Witschnig (“A Different Look on Cyclic Prefix for SC/FDE” Personal, Indoor and Mobile Radio Communications, 2002. The 13<sup>th</sup> IEEE International Symposium ON, col.2 15-18 Sept. 2002, pages 824-828 referred to as Witschnig).

The Examiner argues:

“Witschnig discloses *transmitting a signal comprising OFDM units* (Fig.1 ref. Transmitter and Fig.2 and Fig.3 is an OFDM unit and Section IIIB the structure of a transmitted block, which consists of the original data sequence of N symbols and the sequence of UW with N symbols).”

With respect, it appears the Examiner has misinterpreted Witschnig. Witschnig proposes

a “different look on cyclic prefix for SC/FDE”. It is noted the SC/FDE stands for Single Carrier System with Frequency Domain Equalization. This is different from OFDM. This is made clear in a number of different places within the reference. In the abstract, references are made to use of a so-called unique word instead of a well-known cyclic prefix (as it is used in OFDM systems) for a single carrier system with frequency domain equalization. It should be clear that these two systems are not equivalent. Similarly, the disadvantages of the cyclic prefix for OFDM are described in the second paragraph of the introduction, but the entire remainder of the document does not refer to overcoming this advantage for OFDM, but rather for overcoming the disadvantage for SC/FDE. Specifically, the third paragraph of the introduction refers to “a promising but compared to OFDM rarely investigated solution for broadband communication systems is a concept of single carrier transmission with frequency domain equalization”. The remainder of the paper is dealing with SC/FDE. Referring to Figure 1 of Witschnig, it should be apparent that no OFDM signal is transmitted. There is no OFDM signal generating component in the transmitter. Such a transmitter would include an IFFT block. The FFT used in the receiver of Figure 1 for the purpose of frequency domain equalization. This FFT operation is then “undone” with the following IFFT operation. This is further evidence that the signal received by the receiver in Figure 1 is not a OFDM signal.

Thus, turning the Examiner’s statement that the reference discloses “transmitting a signal comprising OFDM units”, Applicant respectfully submits that this is not the case.

An anticipation rejection requires all the claim limitations to be found in a single reference. Given that the Examiner has failed to find a key limitation of all of Applicant’s independent claims in the reference Witschnig, Applicant respectfully submits that the anticipation rejection is improper and requests that it been withdrawn.

### ***Claim Rejections - 35 U.S.C. 103***

All of the rejections under 35 U.S.C. rely on the Examiner’s interpretation of Witschnig. As discussed above, Applicant respectfully submits that this reference has been misinterpreted,

and that given that all of the independent claims should be allowed for the reasons indicated above, all of the claims rejected under 35 U.S.C. 103(a) should also be patentable for the same reasons. Applicant reserves the right to comment further on any of the limitations of the dependent claims that the Examiner alleges to be found in one or more additional references.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

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RAB:sng